

### REMARKS

This is a response to the Office Action dated June 17, 2005. Claims 1-12 were rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Pat. No. 4,805,086 (“Nielsen”). By this Amendment, Applicants have amended claims 1 and 7-8, canceled claims 9-11, and added claim 13. These rejections are believed to be overcome in view of the amendments made to claims 1 and 8.

The rejections from the Office Action dated June 17, 2005 are discussed below in connection with the various claims. No new matter has been added. Reconsideration of the application is respectfully requested in light of the following remarks.

#### Rejections Under 35 U.S.C. § 102(b)

##### **Independent Claim 1**

The Examiner has rejected independent claim 1 as being anticipated by Nielsen. Applicants note that while the Examiner has provided a statutory basis and reference for the rejection, the Examiner has not designated any parts, figures, or text in Nielsen to support the rejection. Notwithstanding the lack of any specific grounds as reason for the rejection, Applicants have amended claim 1 to more clearly describe the invention.

Independent claim 1, as amended, relates to a method of modulating a boom assembly to perform in a desired manner, including the step of providing a modulating factor to the boom as a result of an algorithm. The modulating factor is a function of the boom command signal and the stick command signal and a subtraction factor. The subtraction factor is a function of a plurality of lever signals.

Nielsen does not apply a modulating factor to the boom, where the modulating factor is a function of the boom command signal, stick command signal, and subtraction factor. Instead, when the cutting edge of the bucket is within a predetermined distance of a set point, Nielsen **automatically** exercises **complete** control over the boom while the operator controls only the stick and bucket. (See Nielsen, Col. 20, ll. 2-5, 32-43). This automatic control of the boom in Nielsen is not dependent on the boom command signal. Instead, this automatic control over the boom is calculated by determining the **position** of the

cutting edge of the bucket using both angle detectors and linear position encoders provided on the boom, bucket, and stick cylinders. (See Nielsen, Col. 4, ll. 63-68; Col. 5, ll. 1-32).

In contrast, Applicants have amended claim 1 to require that the modulating factor provided to the boom is a function of the **boom command signal**, stick command signal, and subtraction factor, where the subtraction factor is a function of the plurality of lever signals. These lever signals are indicative of the operator's desired direction and desired velocity of the boom and stick – not the actual position of the cutting edge of the bucket.

Because Nielsen does not teach or suggest providing a modulating factor to the boom that is a function of the boom command signal, Applicants respectfully submit that Nielsen does not anticipate the present invention. Accordingly, Applicants request that the Examiner withdraw this rejection of independent claim 1.

#### **Independent Claim 8**

The Examiner has also rejected independent claim 8 as being anticipated by Nielsen. Independent claim 8, as amended, relates to a method of using a work machine, including the step of using a control device to modulate a command signal in accordance with a modulating factor such that a work implement travels along a desired path. The modulating factor is a function of the boom command signal, stick command signal, and subtraction factor.

As discussed above for independent claim 1, Nielsen does not modulate a command signal in accordance with a modulating factor, where the modulating factor is a function of the boom command signal, stick command signal, and subtraction factor. Because Nielsen does not teach or suggest modulating a command signal in accordance with a modulating factor that is a function of the boom command signal, Applicants respectfully submit that Nielsen does not anticipate the present invention. Accordingly, Applicants request that the Examiner withdraw this rejection of independent claim 8.

#### **Dependent Claims 2-7 and 12**

Dependent claims 2-7 and 12 were also rejected pursuant to 35 U.S.C. § 102(b) as being anticipated by Nielsen. The dependent claims should be allowed for the reasons set out above for claims 1 and 8, the claims from which they depend. Applicants

therefore request that the Examiner withdraw this rejection of these claims.

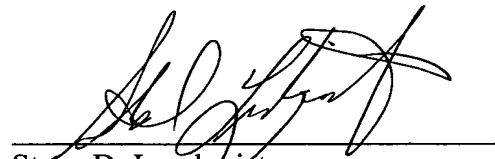
**New Claims**

With this response, new claim 13 has been added. Support for this claim may be found in the specification. No new matter has been added. New claim 13 should be allowed over the cited references for the same reasons as discussed above. Accordingly, Applicants request that the Examiner allow new claim 13.

**Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. The Examiner is courteously invited to telephone the undersigned representative if it is believed that an interview might be useful for any reason.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Steve D. Lundquist', is written over a horizontal line.

Steve D. Lundquist  
Registration No. 42,816  
Caterpillar Inc.

Telephone: (309) 675-4460  
Facsimile: (309) 675-1236